REMARKS/ARGUMENTS

Applicant thanks the Examiner for the professional courtesies extended in a telephone interview with Applicant's counsel, Micheal Lake, on November 30, 2007. In accordance with this discussion (See Paper No. 20071130) and to further prosecution of the application along, Applicant herein submits these amendments and remarks.

Pursuant to the Examiner's suggestion, Claims 3 and 4 have been amended to more distinctly claim and particularly point out the subject matter that Applicant regards as the invention. In addition, Claims 19-32 and 35 have been canceled and no claims have been added. As such, Claims 1-4, 6-18, and 34 are pending in this application. Reconsideration of the present application and all pending claims are respectfully requested.

To briefly reiterate Applicant's position, *Fujisawa* is concerned about aberrations produced by a curved wafer (see Figs. 3A-3C). Conventionally, a curved wafer is tilted such that the average distance of its surface from the image plane of the projection objective is reduced, as is indicated in Figs. 3B-3C. *Fujisawa* teaches to separately tilt the wafer (see Fig. 4A), and to then correct a residual curvature-of-field (see Fig. 4B) by driving and tilting the lens elements in the objective controlled by the lens control unit 113. Fig. 4B shows in its lower portion the remaining amount of curvature-of-field (see para. 85).

To address the new way of viewing the proposed combination of *Van Der Werf* and *Fujisawa* (recently discussed with Examiner), it is Applicant's position that the resulting device could not work. The device disclosed within *Fujisawa* tilts the wafer to correct for the fact that the wafer is mechanically distorted, i.e., curved. Since at any given time the wafer is tilted to a position that accommodates mechanical deformation in the wafer, it cannot be tilted to accommodate for optical aberrations as required by Applicant's Claim 1. Rather in *Fujisawa*, correction for the light aberrations is corrected separately by lenses. Once set in the correct tilted position, if the wafer was tilted for any other reason—such as to correct for light aberrations as called for in Applicant's Claim 1—it would no longer be in the correct position to correct for the mechanical deformation.[1] This is the reason why the lenses of *Fujisawa* correct for aberrations after the wafer is fixed. Thus there is

1 Applicant notes that the tilting of the wafer is not performed once and for all at the beginning of the scan operation. Instead, the look-ahead sensor 112 continuously measures the curvature of the wafer, and the measures explained above are continuously carried out. This implies adjustments of the tilting angle of the wafer and also of the lens movements in the projection lens 103.

no reason for one of ordinary skill in the art to even consider combining the references suggested by the previous Examiner. In fact, *Fujisawa* would teach away from constructing the proposed *Van Der Werf/Fujisawa* device.

Applicant notes that while strictly speaking, the purpose of the means disclosed in *Fujisawa* is the reduction of aberration, if the wafer would not be tilted (see figure 4A in *Fujisawa*), larger portions and thus the image would be blurred. Tilting of the wafer (see figure 4B) reduces this defocus aberration considerably. However, the surface of the wafer is still not completely within the focal plane. Because the wafer cannot be flattened, *Fujisawa* proposes to modify the projection lens 103 such that it does not produce a flat focal plane, but a curved focal plane which corresponds as closely as possible to the curved surface of the tilted wafer. One might even say that *Fujusawa* introduces a curvature-of-field, i.e., curved. Usually measures are taken to reduce the field-of-curvature, but here it is deliberately introduced to sharply image the mask on the curved wafer surface. This methodology is completely inconsistent with the devices of *Van Der Werf*.

Fujisawa tilts the wafer for reducing defocus aberrations, and then moves lens elements within the projection lens 103 for further reducing the defocus aberration (see figure 4C). If the wafer was additionally tilted for the correction of a distortion—here the term "distortion" does not denote the wafer curvature, but an optical aberration—it is clear that the correction described in *Fujisawa* could not properly work because the average defocus would immediately increase, i.e., the situation illustrated in figure 4B would be transformed in the situation shown in figure 4A. In short, one device cannot use the same measure—i.e., tilting of the wafer—to simultaneously correct a defocus aberration caused by a curved—"distorted"—wafer on the one hand, and an image distortion on the other hand.

It is therefore believed that *Fujisawa* neither teaches nor motivates a person skilled in the art to tilt the wafer for correcting a distortion; and in particular, not the very specific distortion recited in limitation b) of Applicant's Claim 1.

Applicant further submits that any combination of the relied upon prior art also fails to disclose, teach, or suggest each and every element of Applicant's independent Claim 1. Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. 103(a) of independent Claim 1—as well as all pending claims depending directly or indirectly thereon—be withdrawn and the claims be allowed to issue.

CONCLUSION

In view of the above amendments and remarks, Applicant respectfully submits that the application is in condition for allowance. Applicant believes that no additional fees are necessary, however if any fees are required, they may be paid out of our Deposit Account No. 50-0545.

Respectfully submitted,

Dated: December 21, 2007

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I hereby certify that this correspondence is being FAXED TO (571) 273-8300 Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 21, 2007.

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